

AMENDMENTS TO THE SPECIFICATION

A. The paragraph beginning at page 10, line 9 (second to the last line at the bottom) and ending at page 11, line 9.

In Example 2, tests were performed on surfactants shown in Table 2 using test apparatus 100. The test material 108 consisted of a five layer stack of polycarbonate membranes. The membrane consisted of a polycarbonate Whatman Nuclepore™ membrane having a 0.05 μm pore size (Cat. # 111703). Each had a thickness of 6 μm resulting in a stack about 30 μm thick. A Fluke Ohmmeter was used for measurement of the conductive contact time. The membrane size was cut to 0.75 in. square, and placed in the test holder, followed by addition of 400 grams of weight on the cover 104 for holding the samples in place. The opening 106 in cover 104 was 3/8" in diameter and used to make the tests shown in Table 2. Readings were made after 1 minute of contact with a drop of surfactant.

B. The paragraph beginning at page 16, line 10 and ending at line 21.

Table 2 shows the results for fifteen surfactant systems ~~systems~~. (5% solutions based on the active ingredients) and their penetration capabilities on polycarbonate membrane stacks. A direct comparison was also made between the surfactant solutions and deionized water as shown. The 3ML-15638 emulsion was used at 80% activity, since it was considered to already be very dilute.

C. The paragraph beginning at page 13, line 19 and ending on line 23

Tests were performed ~~performed~~ for the formulations shown in Table 4 with addition of a dye so that wicking area could be evaluated. This example definitely showed that with a larger 1" opening that wicking was not a problem. The largest wicking area was 0.81 inch in diameter for Sample EEG-3 AY.

D. The paragraph beginning at page 15, line 5 and ending at line 14.

The tests were performed with Nicolet AgCl electrodes (019-417600), an impedance ~~a-impedance~~ meter, a digital storage scope and digital voltmeter. A

reference electrode and ground electrode were placed on ~~place on~~ the subject on the right side of the forehead and the shoulder respectively. Standard abrasion and 10/20 gel were used. The reference to ground measurements were verified throughout the test. Impedance was 1 kOhm and the half-cell potential was 18-22mV. All tests were done on the forehead with no skin preparation. All test substances were placed via a swab onto the forehead followed by the AgCl electrode held in place with medical tape. A new site and electrode were ~~[[was]]~~ used with each test.

E. The paragraph beginning at page 16, line 4 and ending at line 10

The tests were performed with a Nicolet AgCl electrode (019-417600), impedance meter, digital storage scope and digital voltmeter. A reference electrode and ground electrode were placed ~~[[place]]~~ on the right side of the forehead and the shoulder respectively of a human subject. Standard skin abrasion and a 10/20 gel were used. The reference to ground measurements were verified throughout the test. Impedance was about 900 ohms and the half-cell potential was about 6-12 mV.

F. The paragraph beginning at page 16, line 11 and ending at line 18.

All tests of substances on the human subject were done on the forehead with no skin preparation. All test substances were injected using a syringe into a cup electrode secured to the forehead with medical tape. Second and third injections were done at five-minute intervals. A new site and electrode were ~~[[was]]~~ used with each test. All Substances were tested. Testing began at 10:47 AM and was completed at 2:03 PM. The order shown below is not the order in which the substances were tested. All solutions used were standardized to 5 % activity.

G. The paragraph beginning at page 17, line 12, and ending at line 15.

Substances 29-1 AC ~~[[1-AC]]~~, 29-4 CC, and 29-8 LS gave the best results. Substance 29-8 LS, Lamepon S, gave the best Test 2 Impedance result ~~results~~. Substances 29-3 AY and 29-14 TM had the worst results and accordingly are deleted

from further consideration by this test.

H. The paragraph beginning at page 18, line 2 and ending at line 12.

The tests were performed with a Nicolet AgCl electrode (019-417600), impedance meter, digital storage scope and digital voltmeter. A reference electrode and ground electrode were placed ~~[[place]]~~ on the right side of the forehead and the shoulder respectively. Standard abrasion and 10/20 gel were used. The reference to ground measurements were verified throughout the test. Impedance was 900 ohms and the half-cell potential was 6-12 mV. All tests were done on the forehead with no skin preparation. All test substances were injected using a syringe into a cup electrode secured to the forehead with medical tape. Second and third injections were done at five-minute intervals. A new site and electrode were ~~[[was]]~~ used with each test. Only substances 29-1 AY, 29-7 DS, 29-8 LS, and 29-11 MT, identified above were used in this test.

I. The paragraph beginning at page 20, line 4 and ending at page 21, line 7.

Test performed with Nicolet AgCl electrode (019-417600), impedance meter, and digital voltmeter. A reference electrode and ground electrode were placed ~~[[place]]~~ on the left side of the forehead and the shoulder of a human subject respectively. Standard abrasion and 10/20 gel were used. The reference to ground measurements were verified throughout the test. Impedance and the half-cell potential of the reference electrode were recorded and are listed in the results below. All tests substances were injected using a syringe into a cup electrode secured to the forehead with medical tape. Second and third injections were done at five-minute intervals. A new site and electrode were ~~[[was]]~~ used with each test. The substances were tested in pairs. All Substances were tested. The impedance meter was wired to remain on as it was in previous tests.

J. The paragraph beginning at page 29, line 20 and ending at page 30, line 2.

Another embodiment of the invention includes the use of the surfactants disclosed herein to enhance the delivery of drug compounds through the skin

[[skim]] or membranes. The surfactant acts as a carrier for drugs having small molecules, drugs with large molecules including proteins and other biologics. The embodiment covers the promotion of small or large molecule drug compounds through the skin. The transport of the drugs could be aided by an electrical potential. Typically, the drugs are used alone or are attached to carrier molecules that can be charged with an electrical bias so as to enhance the transport of the molecules.

K. The paragraph beginning at page 30, line 3 and ending at line 5.

The transport enhancing material can be used on or in a patch for enhanced delivery/transport of drugs or other compounds; and compounds.~~As an additive to~~ topical creams or gels with drug compounds mixed into the gel.

L. The paragraph beginning at page 30, line 28 and ending at page 31, line 4:

Figure 4 illustrates a noninvasive diagnostic patch 400 that can be used to monitor bodily functions. The patch 400 consists of holding material 401 that may be adhesive 401A at the bottom thereof where it contacts the skin. A first layer 402 containing the materials disclosed in this invention is located to be in proximity to the skin. A second reactive layer 403 is located above ~~locate above~~ the first layer and contains chemicals that are reactive with materials extracted from the body through the skin. A third layer 404 contains indicators visible to a user. Enveloping protective layer 405 is optional and may be clear or have a clear window so that the indicators are visible to the user.

M. The paragraph beginning at page 31, line 5 and ending at line 11.

A patch similar to that disclosed in Figure 4 may be used to deliver chemicals, drugs or medicine to a patient. In that case, layer 404 is not needed and only a drug containing layer 403 and a layer 402 containing the materials according to the present invention are needed. In some embodiments the chemicals, drugs or medications may be mixed into the materials of the present invention, in which case only layer 402 would be needed.